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INSECT PEST SURVEY

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STATUS OF THE EUROPEAN CORN BORER IN 1947

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Distribution

The European corn borer (*Pyrausta nubilalis* (Hbn.)) is now known to infest corn in 1,052 counties in 28 States. In 1947 a total of 94 new county infestations were reported from 11 States. All but 6 of the new county infestations were found west of the Mississippi River. The known distribution of the corn borer, including the 94 new county infestations, is shown on Map 1.

The State of Minnesota reported the largest number of new county infestations, a total of 41. All but 8 counties in that State are now known to be infested. A total of 19 newly infested counties were reported by Nebraska near the center of which State the borer has reached its westernmost point. Surveys by State personnel revealed that in Iowa the corn borer infests every county, 10 of which were not reported prior to 1947. First records of infestation, involving 1 to 11 counties, were also made in 1947 in Kansas, Kentucky, Missouri, New York, North Dakota, Pennsylvania, Tennessee and Virginia.

^{1/}The data presented in this report were assembled and tabulated at the European Corn Borer Research Laboratory, Toledo, Ohio, Wm. G. Bradley in charge. The field data were obtained by the Bureau of Entomology and Plant Quarantine and State agencies, or by the two in cooperation. State agencies that contributed data and assistance were as follows: Illinois Natural History Survey; Indiana State Department of Conservation; Entomological Commission of Kansas; State Departments of Agriculture of Maine, Maryland, Minnesota, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, Virginia, and Wisconsin; State Agricultural Experiment Stations of Connecticut, Delaware, Indiana, Iowa, Kentucky, Massachusetts, Missouri, Nebraska, New Hampshire, New York (Geneva), North Dakota, Ohio, South Dakota, Tennessee, and the Virginia Truck Experiment Station.

The States and counties from which infestations were reported for the first time in 1947 are listed below.

Iowa:

Cherokee
Dickinson
Fremont
Lyon
Mills
O'Brien
Osceola
Plymouth
Sioux
Woodbury

Kansas:

Anderson
Atchison
Bourbon
Coffey
Doniphan
Franklin
Leavenworth
Jefferson
Linn
Miami
Osage

Kentucky:

Elliott

Minnesota:

Aitkin
Becker
Beltrami
Benton
Big Stone
Cass
Clay
Clearwater
Cottonwood
Crow Wing

Minnesota, cont.:

Douglas
Grant
Hubbard
Isanti
Itasca
Kanabec
Lincoln
Lyon
Mahnomen
Marshall
Mille Lacs
Morrison
Murray
Nobles
Norman
Otter Tail
Pennington
Pine
Pipestone
Polk
Pope
Red Lake
Redwood
Renville
Rock
Sherburne
Stevens
Swift
Traverse
Wadena
Wilkin

Missouri:

Daviess
Gentry
Harrison
Jackson
Montgomery

Nebraska:

Burt
Butler
Cass
Cedar
Colfax
Dakota
Douglas
Hall
Hamilton
Johnson
Merrick
Nance
Otoe
Pawnee
Platte
Polk
Saline
Saunders
Seward
Stanton

New York:

Clinton

North Dakota:

Cass
Richland

Pennsylvania:

Fulton

Tennessee:

Davidson

Virginia:

Southampton

Abundance

The Bureau of Entomology and Plant Quarantine and agencies in 22 States cooperated in surveys to determine the abundance of the European corn borer in 532 counties, or more than half the number known to be infested in the United States. A uniform number of 10 sample fields were surveyed in most counties. The standard sample consisted of the examination of 25 consecutive plants to determine the percentage infested, and the dissection of 2 plants to determine the number of borers per plant. The product of the percent infested and the average number of borers per infested plant, expressed as borers per 100 plants, indicated the borer population. The distribution of the counties surveyed and the abundance of borers in corn are shown on Map 2.

Two States--Maine and Pennsylvania--preferred to examine more than 25 plants per field, and to dissect more than 2 plants in each. Only three States--Iowa, Minnesota, and Missouri--observed fewer than 10 fields per county in some, or all, of the counties examined.

In Iowa the 12 corn-testing districts were utilized as the survey unit and 50 to 52 standard samples were taken in each district. The samples were distributed over the districts so that 3 or more samples were taken in each county.

In Minnesota 10 standard samples were taken in each of 30 counties of the southeastern part of the State, and 5 samples were taken in each of 32 additional counties. The latter counties are arranged according to the crop-reporting districts in which they fall. The 1947 survey data are summarized in table 1.

Table 1.--Summary by States of European corn borer abundance in corn, fall of 1947, and comparisons with data for 1946

State	1946		1947		Counties surveyed both years		
	Number of counties surveyed	Average number of borers per 100 plants	Number of counties surveyed	Average number of borers per 100 plants	Number of counties	Borers per 100 plants	Significant change
Connecticut	8	9	8	23	8	9	23 Increase
Delaware	3	62	3	85	3	62	85 None
Illinois	37	90	37	137	37	90	137 Increase
Indiana	70	31	70	67	70	31	67 Increase
Iowa ^{1/}	58	77	99	119	74	89	148 Increase
Kentucky	9	54	7	144	2	79	119 Increase
Maine	9	22	12	81	9	22	88 Increase
Maryland	19	95	3	165	3	109	165 None
Massachusetts	4	87	4	51	4	87	51 Decrease
Michigan	6	5	6	54	6	5	54 Increase
Minnesota	22	9	61	119	22	9	273 Increase
Missouri	18	8	18	21	4	15	20 None
New Hampshire	9	26	9	64	9	26	64 Increase
New Jersey	20	105	20	59	20	105	59 Decrease
New York	20	32	20	73	20	32	73 Increase
North Carolina	3	98	3	36	3	98	36 Decrease
Ohio	30	21	30	43	30	21	43 Increase
Pennsylvania ^{2/}	50	69	43	70	40	77	74 None
Rhode Island	1	181	3	90	1	181	67 None
Vermont	11	17	11	44	11	17	44 Increase
Virginia	14	59	13	124	13	63	124 Increase
Wisconsin	43	35	52	48	43	35	56 Increase
Total or average	464	55	532	78	432	57	85 Increase

^{1/} Comparable data for 74 counties in 9 districts.

^{2/} Data for 1946 differ from those previously given in that additional counties have been included.

Surveys in the 13 easternmost States of the infested territory indicated that the borer increased in numbers in 1947 compared with 1946 in Maine, New Hampshire, Vermont, Connecticut, New York, Maryland, Delaware and Virginia. A decrease occurred in only 5 States--Massachusetts, Rhode Island, Pennsylvania, New Jersey, and North Carolina.

The borers per 100 plants averaged less than 100 in all eastern States except in Virginia with 124 and Maryland with 165. The former average indicates that a significant increase occurred in Virginia, but in Maryland the increase was not statistically significant because of the small number of counties examined. Although the average number of borers per 100 plants was less than 100 in Maine, New Hampshire, Vermont, Connecticut, and New York, the data indicate statistically significant increases in population ranging from 128 to 296 percent.

In New Hampshire, Massachusetts, Connecticut, and Delaware no county average exceeded 100 borers per 100 plants, and only one county each in Vermont, Rhode Island, and Maryland exceeded the latter figure. Two counties in Maine and three counties in New York exceeded 100 borers per 100 plants; two counties in the latter state, Nassau and Suffolk, exceeded 200 borers. The surveyed counties in Virginia averaged 124 borers per 100 plants; six counties averaged more than 100 borers, of which four were above 200, but none exceeded 300 borers per 100 plants.

Of the 43 counties surveyed in Pennsylvania, 13 averaged more than 100 borers per 100 plants, including 4 that exceeded 200.

The decrease observed in Pennsylvania is too small to be significant. Because of the variability of the Rhode Island data, the decrease in that State is not considered significant. Significant decreases occurred in North Carolina and New Jersey. The decrease in the latter State, because of the full quota of counties surveyed, is of unusual interest since the population dropped from 105 in 1946 to 59 in 1947.

The surveys in the 9 western States indicated that a general increase in borer population had occurred and was statistically significant in every case except in the state of Missouri. The significant increases ranged from about 52 percent in Illinois and Kentucky to about 29 fold in Minnesota in the counties for which comparable data are available.

The average populations in Indiana, Michigan, and Ohio were less than 100 borers per 100 plants. Only 1 county each in Ohio and Michigan averaged more than 100 borers per 100 plants. In Indiana, 7 counties fell in this category, and 2 counties exceeded 200 borers.

The highest mean population among the western group was observed in Kentucky where only 7 counties were examined. The population in Illinois averaged 137 borers per 100 plants, which was higher than the averages for Iowa and Minnesota. However, the data for comparable counties, i.e., those surveyed in both 1946 and 1947, indicate that the population increase was greater and the estimated mean population was higher in Minnesota than in any of the other States.

The county averages of the Illinois survey ranged from 3.2 to 463.6 borers per 100 plants; only 16 counties averaged less than 100 borers and 4 exceeded 300 borers.

The 12 districts in Iowa averaged 148 borers and ranged as high as 329 borers per 100 plants. A county in district No. 6 averaged as high as 469 borers, but county averages in this case, because of the small number of samples taken per county, are not so reliable as the district mean.

The highest county average, 618, based upon a standard count, was for Steele County, Minn. In that State standard counts were made in 30 counties, only 10 of which averaged less than 100 borers and 6 more than 400 borers per 100 plants.

An additional 31 counties in Minnesota were surveyed utilizing 5 counts per county. These data are presented in groups according to the crop reporting district in which they fall. The counts in the 31 counties indicated that low populations prevailed, none exceeding 80 borers per 100 plants.

The population data for 1946 and 1947 are presented by counties in table 2. In this table the survey data for both years are given, as well as means for counties surveyed in both years, to indicate trends in populations in 1947.

In general, the 1947 crop season was unfavorable for high corn yields except in some southeastern States. Production of corn was down in all of the Corn Belt States. The planting season was unfavorable because of the wet condition of the fields, and large acreages were planted late. The germination period of early planted corn was such that poor stands were obtained, and large acreages were plowed under and planted to other crops.

The poor spring condition was followed by droughty conditions in large areas of the Corn Belt which further reduced prospective yields. However, late summer and early fall conditions were ideal in most States and more corn ripened and was harvested than was expected.

Experience has shown that, as a general rule, conditions that are unfavorable to corn development are also unfavorable for high borer survival. The early brood of borers was seriously affected by prevailing conditions and populations were light. However, the ideal conditions of late summer and fall with much late corn permitted the second-brood borer to realize its high potential and resulted in high borer populations.

Table 2.--European corn borer abundance in corn, fall of 1947, and comparisons with data for 1946

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants	
	1946	1947		1946	1947
Connecticut:					
Fairfield	14	17	Lawrence	3	13
Hartford	16	21	Livingston	137	157
Litchfield	2	13	Logan	11	110
Middlesex	8	22	Macon	12	35
New Haven	14	25	Madison	10	21
New London	4	43	McDonough	54	75
Tolland	2	26	McLean	44	145
Windham	15	11	Mercer	78	422
			Moultrie	1	47
Delaware:					
Kent	40	98	Ogle	274	236
New Castle	35	59	Peoria	50	197
Sussex	113	97	St. Clair	17	27
			Sangamon	22	119
			Vermilion	14	89
Illinois:					
Adams	12	58	Whiteside	270	166
Boone	101	195	Will	90	123
Brown-Cass	12	36	Winnebago	259	343
Bureau	192	324	Woodford	92	160
Champaign	19	49	Indiana:		
Christian	16	50	Adams	36	18
Clark	7	36	Allen	52	23
DeKalb	325	130	Bartholomew	15	93
DuPage	84	104	Benton	53	63
Hancock	69	106	Blackford	5	43
Henderson	133	229	Boone	10	101
Iroquois	54	97	Carroll	45	31
Jasper	5	3	Cass	31	39
Jo Daviess	275	464	Clay	3	4
Kankakee	32	163	Clinton	36	91
Knox	49	249	Dearborn	2	6
Lake	113	58	Decatur	11	14
LaSalle	286	89	DeKalb	44	78
			Delaware	17	64
			Elkhart	55	189
			Fayette	4	25
			Fountain	30	33

Table 2.--(Continued)

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants	
	1946	1947		1946	1947
Indiana (cont.):					
Franklin	4	41	Tipton	10	11
Fulton	78	97	Union	8	45
Gibson	4	18	Vermillion	59	216
Grant	31	22	Vigo	12	65
Hamilton	12	6	Wabash	29	30
Hancock	8	65	Warren	89	63
Hendricks	22	69	Wayne	9	21
Henry	9	97	Wells	18	29
Howard	47	27	White	47	84
Huntington	28	129	Whitley	100	94
Jasper	63	90			
Jay	17	10	Iowa:		
Jefferson	15	36	District 1--		
Johnson	10	60	Clay	-	43
Knox	12	38	Dickinson	-	14
Kosciusko	75	129	Emmet	-	30
Lagrange	30	206	Lyon	-	7
Lake	69	109	Osceola	-	3
LaPorte	55	85	O'Brien	-	33
Madison	13	10	Palo Alto	-	64
Marion	12	23	Sioux	-	20
Marshall	42	143			
Miami	33	29	District 2--		
Montgomery	24	77	Cerro Gordo	-	79
Newton	25	146	Floyd	44	234
Noble	91	180	Hancock	-	75
Ohio	20	17	Kossuth	35	51
Owen	10	47	Mitchell	-	159
Parke	53	236	Winnebago	-	90
Porter	65	84	Worth	11	185
Posey	6	12			
Pulaski	67	140	District 3--		
Putnam	19	97	Allamakee	37	78
Randolph	13	11	Chickasaw	-	239
Ripley	9	5	Clayton	-	128
Rush	8	23	Fayette	56	322
St. Joseph	82	153	Howard	6	82
Shelby	10	80	Winneshiek	-	171
Starke	65	97			
Steuben	41	99	District 4--		
Sullivan	7	34	Cherokee	-	14
Switzerland	34	19	Ida	-	62
Tippecanoe	32	45	Plymouth	-	26
			Pocahontas	-	28
			Sac	-	57
			Woodbury	-	65
			Buena Vista	6	51
			Calhoun	14	32

Table 2.--(Continued)

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants		
	1946	1947		1946	1947	
Iowa (Cont.):						
District 5--						
Butler	-	316	Adair	3	12	
Franklin	87	186	Adams	-	11	
Grundy	225	224	Fremont	-	7	
Hamilton	31	54	Mills	-	20	
Hardin	96	366	Cass	-	26	
Humboldt	40	53	Montgomery	-	60	
Webster	38	36	Page	-	3	
Wright	23	109	Pottawattamie	-	58	
			Taylor	-	5	
District 6--						
Black Hawk	313	264	District 11--			
Bremer	53	469	Appanoose	30	68	
Buchanan	102	267	Clarke	-	75	
Clinton	191	105	Decatur	7	32	
Delaware	-	330	Lucas	29	34	
Dubuque	47	269	Madison	-	13	
Jackson	112	423	Mahaska	78	190	
Jones	194	450	Marion	-	240	
Linn	193	433	Monroe	-	49	
			Ringgold	-	17	
District 7--						
Audubon	6	32	Union	15	50	
Guthrie	41	77	Warren	36	108	
Carroll	21	49	Wayne	-	10	
Crawford	12	158	District 12--			
Greene	63	67	Henry	28	65	
Harrison	24	52	Jefferson	-	53	
Monona	7	135	Wapello	60	70	
Shelby	6	47	Davis	-	73	
			Van Buren	29	41	
District 8--						
Boone	12	74	Lee	52	26	
Dallas	30	35	Des Moines	74	141	
Jasper	88	99	Kentucky:			
Marshall	200	168	Anderson	23	-	
Polk	83	20	Bourbon	139	-	
Poweshiek	-	74	Boyle	60	-	
Story	32	77	Bullitt	-	30	
Tama	205	252	Fayette	152	194	
			Hardin	-	42	
District 9--						
Benton	210	344	Jefferson	-	192	
Cedar	139	187	Madison	15	-	
Iowa	-	197	Mason	4	-	
Johnson	267	202	Meade	-	60	
Keokuk	149	310	Scott	73	-	
Louisa	129	207	Trimble	6	45	
Muscatine	173	143	Warren	14	-	
Scott	111	243	Woodford	-	442	
Washington	72	106				

Table 2.--(Continued)

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants	
	1946	1947		1946	1947
Maine:					
Androscoggin	19	103	Minnesota:		
Cumberland	22	74	Blue Earth	39	455
Franklin	18	85	Brown	3	159
Kennebec	30	68	Carver	-	225
Knox	14	78	Cottonwood	-	63
Lincoln	-	52	Dakota	5	267
Oxford	11	116	Dodge	2	244
Piscataquis	-	59	Faribault	6	160
Sagadahoc	-	70	Fillmore	4	215
Somerset	16	76	Freeborn	20	430
Waldo	21	70	Goodhue	17	429
York	48	94	Hennepin	-	89
			Houston	19	178
			Jackson	-	83
Maryland:					
Allegany	6	-	LeSueur	13	72
Baltimore	282	-	McLeod	-	65
Calvert	28	-	Martin	2	85
Carroll	287	-	Mower	3	232
Caroline	76	-	Nicollet	13	137
Charles	3	-	Olmsted	5	477
Dorchester	118	-	Redwood	-	82
Harford	69	-	Renville	-	86
Howard	164	-	Rice	8	396
Kent	12	-	Scott	8	359
Montgomery	139	-	Sibley	-	47
Prince Georges	23	-	Steele	5	618
Queen Annes	24	-	Wabasha	7	169
St. Marys	47	-	Waseca	3	437
Somerset	47	98	Washington	0	89
Talbot	51	-	Watonwan	4	179
Washington	149	-	Winona	17	217
Wicomico	33	31	West Central District		
Worcester	246	366	Pig Stone	-	10
Massachusetts:					
Bristol	68	49	Chippewa	-	10
Franklin	114	15	Douglas	-	1
Norfolk	87	97	Grant	-	0
Plymouth	79	42	Lac qui Parle	-	13
Michigan:					
Lenawee	18	55	Pope	-	0
Macomb	0	144	Stevens	-	0
Monroe	2	65	Swift	-	4
Sanilac	3	19	Traverse	-	0
St. Clair	1	13	Yellow Medicine	-	8
Wayne	5	27			

Table 2.--(Continued)

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants		
	1946	1947		1946	1947	
Minnesota (cont.):						
Central District:						
Benton	-	8	Montgomery	2	6	
Kandiyohi	-	16	New Madrid	-	1	
Meeker	-	16	Nodaway	-	9	
Morrison	-	4	Perry	2	2	
Sherburne	-	53	Ralls	10	8	
Stearns	-	3	St. Charles	7	-	
Todd	-	6	St. Louis	30	9	
Wright	-	44	Scotland	5	129	
Missouri (cont.):						
East Central District:						
Anoka	-	80	Belknap	42	23	
Chisago	-	32	Carroll	21	84	
Isanti	-	44	Cheshire	53	65	
Kanabec	-	5	Grafton	11	99	
Mille Lacs	-	21	Hillsboro	26	71	
Pine	-	13	Merrimack	10	28	
Ramsey	-	38	Rockingham	24	58	
Southwest District:						
Lincoln	-	0	Strafford	16	77	
Lyon	-	2	Sullivan	31	73	
Murray	-	8	New Hampshire:			
Nobles	-	39	Atlantic	98	53	
Pipestone	-	1	Bergen	242	115	
Rock	-	22	Burlington	160	59	
Missouri:						
Andrew	0	8	Camden	85	83	
Buchanan	0	40	Cape May	86	47	
Carroll	3	-	Cumberland	108	30	
Chariton	3	-	Essex-Union	32	55	
Clark	14	33	Gloucester	178	72	
Daviess	-	36	Hunterdon	72	17	
Gentry	-	23	Mercer	196	36	
Grundy	2	-	Middlesex	164	159	
Harrison	-	22	Monmouth	184	35	
Holt	0	-	Morris	11	28	
Jackson	0	0	Ocean	71	65	
Lewis	14	25	Passaic	94	147	
Linn	16	-	Salem	156	51	
Livingston	10	9	Somerset	20	34	
Marion	23	13	Sussex	9	24	
Monroe	-	4	Warren	24	19	

Table 2.--(Continued)

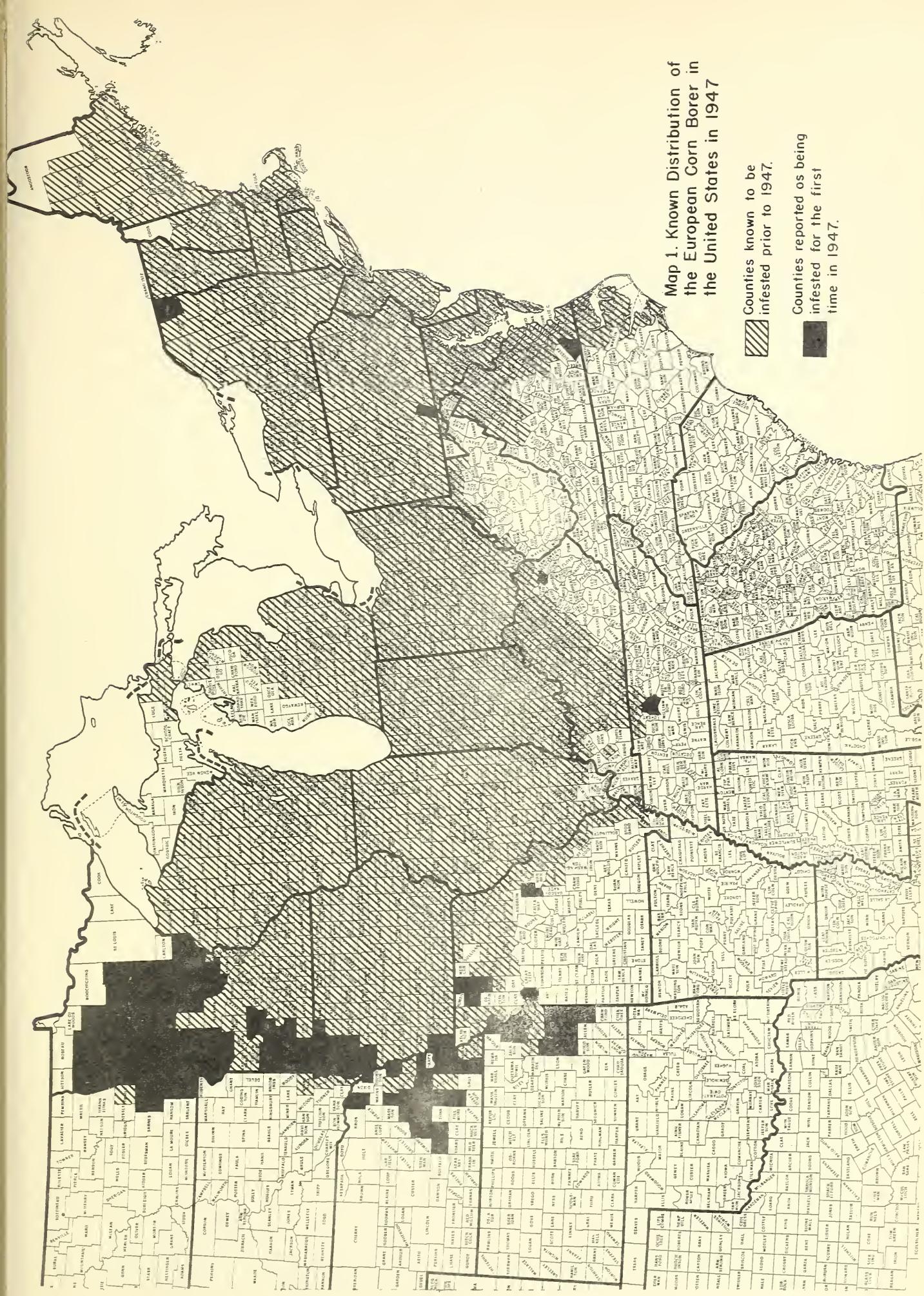
State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants	
	1946	1947		1946	1947
New York:					
Albany	7	24	Logan	1	28
Columbia	12	51	Lucas	28	115
Dutchess	14	28	Madison	12	26
Erie	39	86	Mercer	3	14
Greene	6	78	Miami	0	35
Livingston	5	37	Montgomery	2	46
Monroe	7	57	Ottawa	31	17
Nassau	228	247	Paulding	7	24
Niagara	9	70	Pickaway	53	64
Oneida	4	15	Preble	4	31
Onondaga	23	91	Putnam	57	28
Ontario	10	10	Shelby	2	15
Orange	5	78	Van Wert	34	42
Orleans	9	58	Williams	8	21
Rensselaer	6	21	Wood	64	54
Saratoga	26	42	Pennsylvania:		
Schenectady	0	58	Adams	187	231
Suffolk	187	146	Allegheny	19	46
Ulster	6	251	Armstrong	5	3
Wayne	36	12	Bedford	-	9
North Carolina:					
Camden	152	35	Berks	130	96
Currituck	94	57	Blair	12	18
Pasquotank	47	16	Bradford	5	-
Ohio:					
Allen	25	21	Bucks	137	176
Auglaize	0	27	Butler	4	7
Butler	14	53	Cambria	123	-
Champaign	27	66	Carbon	26	7
Clark	38	26	Centre	38	41
Darke	1	24	Chester	134	109
Defiance	21	36	Clearfield	87	-
Fayette	25	22	Clinton	40	-
Franklin	33	40	Columbia	72	10
Fulton	38	66	Crawford	8	15
Greene	4	33	Cumberland	180	241
Hamilton	27	88	Dauphin	121	112
Hancock	66	97	Delaware	137	150
Hardin	11	68	Elk	39	-
Henry	7	67	Erie	62	41
			Franklin	231	151
			Fulton	-	12
			Huntingdon	39	13

Table 2.--(Continued)

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants	
	1946	1947		1946	1947
Pennsylvania (cont.):					
Indiana	24	43	Accomack	93	166
Juniata	79	70	Clarke	41	236
Lancaster	102	118	Culpepper	20	22
Lawrence	17	22	Fairfax	13	69
Lebanon	184	208	Fauquier	37	231
Lehigh	56	70	Frederick	34	90
Luzerne	4	20	Gloucester	10	-
Lycoming	66	34	Loudoun	145	266
Mercer	23	20	Nansemond	11	2
Mifflin	67	62	Norfolk	69	8
Monroe	-	11	Northampton	96	180
Montgomery	280	123	Prince William	6	80
Montour	47	11	Princess Anne	23	235
Northampton	35	21	Westmoreland	19	22
Northumberland	60	26			
Perry	33	104	Wisconsin:		
Philadelphia	68	123	Adams	6	82
Pike	18	-	Brown	29	50
Schuylkill	54	59	Buffalo-Pepin	6	68
Snyder	85	30	Calumet	59	35
Somerset	5	3	Chippewa	-	9
Sullivan	34	-	Clark	-	4
Susquehanna	11	-	Columbia	13	21
Tioga	31	-	Crawford	21	127
Union	51	76	Dane	51	46
Wayne	3	-	Dodge	22	94
Westmoreland	11	38	Door	16	75
York	174	209	Dunn	-	26
			Fond du Lac	57	153
Rhode Island:			Grant	7	102
Newport	-	86	Green	55	41
Providence	-	118	Green Lake	42	85
Washington	181	67	Iowa	22	81
			Jackson	-	11
Vermont:			Jefferson	25	16
Addison	9	4	Juneau	16	3
Bennington	37	54	Kenosha	82	37
Caledonia	5	19	Keweenaw	28	48
Chittenden	23	41	LaCrosse	26	16
Franklin	10	8	Lafayette	35	75
Grand Isle	11	11	Manitowoc	35	61
Orange	17	86	Marathon	-	11
Rutland	23	102	Marinette	31	52
Washington	9	26	Marquette	42	33
Windham	35	45			
Windsor	7	86			

Table 2.--(Continued)

State and county	Average number of borers per 100 plants		State and county	Average number of borers per 100 plants	
	1946	1947		1946	1947
Wisconsin (cont.):					
Milwaukee	32	31	Shawano	4	23
Monroe	-	7	Sheboygan	36	63
Oconto	51	24	Trempealeau	16	14
Outagamie	41	176	Vernon	11	33
Ozaukee	101	46	Walworth	12	42
Pierce	3	31	Washington	67	73
Portage	-	14	Waukesha	32	7
Racine	82	28	Waupaca	31	27
Richland	60	26	Waushara	17	33
Rock	32	37	Winnebago	71	185
St. Croix	-	4	Wood	-	20
Sauk	28	34			





Map 2. Abundance of the
European Corn Borer in 1947

Borers per 100 Plants

